



10/536978  
PCT/GB 03/05414  
05.01.04



INVESTOR IN PEOPLE

## PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN  
COMPLIANCE WITH RULE 17.1(a) OR (b)

The Patent Office  
Concept House  
Cardiff Road  
Newport  
South Wales  
NP10 8QQ

REC'D 15 JAN 2004  
WIPO PCT

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

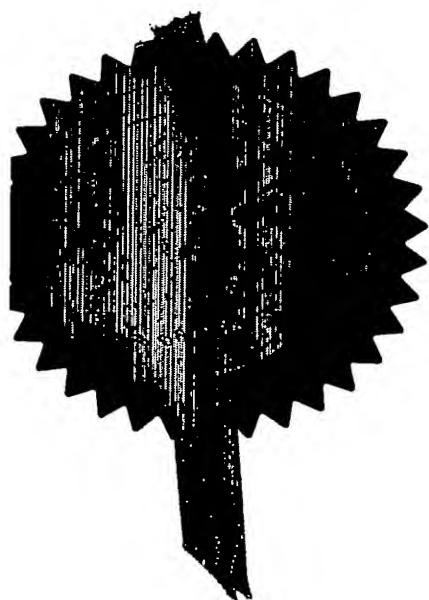
In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

Signed

Dated

*Stephen Holland*  
24 November 2003





1  
177

## Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road  
Newport  
South Wales  
NP10 8QQ

1. Your reference

6.70.1046 UK

02DEC02 E767560-15 D00073

P01/7700 0.00-0227940.4

2. Patent application number

(The Patent Office will fill in this part)

0227940.4

29 NOV 2002

3. Full name, address and postcode of the or of each applicant (underline all surnames)

INTERBREW S.A.  
VARSTRAAT 94  
B-3000 LEUVEN  
BELGIUM

Patents ADP number (if you know it) 7906530002

If the applicant is a corporate body, give the country/state of its incorporation

A BELGIAN CORPORATION

4. Title of the invention

KEG SHELL CONSTRUCTION

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

G.F. REDFERN & CO.  
LYNN HOUSE  
IVY ARCH ROAD  
WORTHING  
WEST SUSSEX. BN14 8BX

Patents ADP number (if you know it) 8435356501

1412002

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number  
(if you know it)

Date of filing  
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

YES

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
- c) any named applicant is a corporate body.

See note (d))

# Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form.  
Do not count copies of the same document

Continuation sheets of this form

Description	6
Claim(s)	3
Abstract	1
Drawing(s)	4 + 4 <i>(6)</i>

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination  
(*Patents Form 10/77*)

Any other documents  
(please specify)

11.

I/We request the grant of a patent on the basis of this application.

Signature

Date

29 November 2002

12. Name and daytime telephone number of person to contact in the United Kingdom

Mrs. S.M. Camp  
01903 820466

## Warning

After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

## Notes

- a) If you need help to fill in this form or you have any questions, please contact the Patent Office on 08459 500505.
- b) Write your answers in capital letters using black ink or you may type them.
- c) If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- d) If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- e) Once you have filled in the form you must remember to sign and date it.
- f) For details of the fee and ways to pay please contact the Patent Office.

- 1 -

## KEG SHELL CONSTRUCTION

### Field of the Invention

The present invention relates to the construction of a keg containing alcohol beverage and in particular, relates to the construction of a beer keg suitable for use in a home beer dispensing system.

### Background of the Invention

It is common to supply beer to taverns and other commercial establishments in beer kegs because the kegs contain larger volumes of beverage that can be dispensed by the establishments.

In a home beer dispensing system, it would be advantageous to be able to supply the beer in beer kegs which, while having a smaller volume than the kegs supplied to commercial establishments, would provide a larger volume of beer than that supplied in a bottle or can of beer.

### Summary of the Invention

It is an object of the present invention to provide a keg for containing an alcohol beverage that has a keg shell construction that is economical to manufacture and that is suitable for use in a home alcohol

beverage dispensing system and preferably, a beer dispensing system.

In accordance with an aspect of the present invention there is provided a keg suitable for containing an alcohol beverage. The keg comprises two keg half shells each identically formed to have an end wall portion and side walls extending from the end wall portion that terminate in a continuous side wall edge portion. The two keg half shells have their respective side wall edge portions placed in abutting relation with one another and joined together to form the keg.

Advantage is found with the keg construction of the present invention because forming the keg from two identical shells, provides a manufacturing cost reduction.

Preferably, the end wall portion of each half shell is formed with a raised annular collar and a face plate extending across the collar to normally close the collar. The face plate of one of the two keg half shells is adapted to engage a cooling plate of a dispensing apparatus in heat transfer relation therewith and the other of the two keg half shells is at least partially removed to form an aperture for receiving a valve and spear for filling into and dispensing from the keg the beverage. This preferred construction of the keg renders the keg operable for use in a home beverage dispensing system such as, for example, a beer dispensing apparatus.

Preferably, the side walls of the two keg half shells comprise a continuous substantially cylindrical wall extending substantially normal from the end wall portion. The side wall edge portions of each cylindrical side wall preferably abut each other along a common plane that passes through a center of the keg. Preferably, the keg half shells are joined by a weld to form the keg.

By substantially cylindrical wall it is meant a wall that resembles a cylinder either having a constant radius along its length or a substantially constant radius along its length. It is envisaged that the radius of the keg may be slightly large toward the keg center to provide a center bulge.

#### Brief Description of The Drawings

For a better understanding of the nature and objects of the present invention reference may be had to the accompanying diagrammatic drawings in which:

Figure 1 is a front elevation view of a home beer dispensing apparatus in accordance with the present invention;

Figure 2 is a side elevation view of the home beer dispensing apparatus;

Figure 3 is a sectional view showing two keg shells prior to joining;

Figure 4 is a side sectional view of the keg shown inside the beer dispensing apparatus of Figure 2 having a dispensing spear within the keg and a cooling system for cooling the contents of the keg; and,

Figure 5 is a perspective view of the keg of the present invention shown mounted in on the cooling plate.

#### Detailed Description Of The Invention

Referring to Figures 1 and 2 there is shown a home beer dispensing apparatus, appliance or unit 10. The dispensing apparatus 10 is primarily intended for use in domestic kitchens but may also be used in utility rooms, garages, domestic bars, caravans etc. While the preferred embodiment relates to dispensing beer, alternatively carbonated solutions or other alcohol beverages may be dispensed by apparatus 10.

The home beer dispensing apparatus 10 has a front wall 12 and a dispensing tap 14 protruding forward of the front wall 12. A drip tray 16 also protrudes forward of the front wall 12 and is adapted to support an open glass container 18 below the dispensing tap 14. The home beer dispensing apparatus 10 further has a base 21 adapted to rest on a counter top in a kitchen. The front wall 12 is formed as an extension of two pivoting side walls 20 which may be moved between closed and open positions to allow the keg 22 (see Figure 2 in broken lines) to be inserted into the housing of the home beer dispensing apparatus 10. The housing of the home beer dispensing apparatus 10 further includes a top wall 24 and a rear wall 26. The rear wall 26 has a grill 30 that permits for air circulation within the home beer dispensing apparatus 10. An electrical cord 32 extends through the rear wall 26 of the apparatus 10 to provide a connection into a main electrical supply to supply electrical power to the electrical components housed within the dispensing apparatus 10. Alternatively, a 12 Volt DC supply input may be used.

The dispensing apparatus 10 has a cooling system 23 located behind and below keg 22 that is adapted to cool the keg 22 of beer when the keg is placed in dispensing apparatus 10.

Referring to Figures 1 to 5, the cooling of the keg 22 within the beer dispensing apparatus 10 is accomplished by a the cooling system 23 having a cooling plate 70 having a cooling surface 72 that is in mechanical and heat transfer contacting relation with the bottom portion 40 of the keg 22.

The dispensing apparatus 10 also fills and dispenses beer into and out of the keg 22 through a valve 42 and spear 44 as best seen in Figure 4. The keg 22 preferably includes a bag (not shown) for holding the beer

within the keg 22 and into which the spear 44 extends.

Referring to Figures 2, 3 and 4, the keg 22 of the present invention is shown in more detail.

In accordance with the present invention the keg 22 is formed from two keg half shells 50. Each of the keg half shells 50 are identically formed by deep drawing of a material selected from the group consisting of steel, stainless steel, and aluminum.

The keg half shells 50 each have an end wall portion 52 and substantially cylindrical side wall 54. The cylindrical side wall 54 is shown in Figure 3 to comprise a wall having two different radii  $r_1$  and  $r_2$  where  $r_2$  is greater than  $r_1$  to provide a bulge 60 at the center 62 of keg 22. In Figures 4 and 5 the cylindrical side wall 54 of each keg half shell 50 has a uniform radius  $r_3$ . As shown in Figures 3 to 5, the substantially cylindrical side walls 54 extend substantially normal or perpendicular to the end wall portion 52. The end wall portions 52 of the keg shells 50 each have a generally concave curvature 56 relative to the cylindrical side wall 54 and interior of the keg 22.

Each end wall portion 52 is formed with a raised annular collar 64 and flat face plate 66 extending across the collar 64 to normally close the collar 64. While only one face plate 66 is shown in the bottom shelf half 50 in the drawings, it should be understood that keg half shells 54 are each formed with a face plate 66. The collars 64 strengthen the keg. The bottom face plate 66 of the two keg half shells 50 is adapted to engage the cooling plate 70 in heat transfer relation therewith. The other or top face plate (not shown) of the two keg half shells 50 is at least partially removed to form an aperture 80 as seen in Figures 3 and 5. Aperture 80 is adapted to receive valve 42 (see Figure 4) and hollow spear 44 shown

extending into the keg 22. The valve 42 and spear 44 provide means for filling keg 22 with beer and for dispensing beer from keg 22 through tap 14 (Figure 1).

Each end wall portion 52 has an annular rim 51 shown curved in Figures 4 and 5 and as a ridge in Figure 3. The annular rim 51 extends about the periphery of end wall portion 52 adjacent the cylindrical wall 54. The rim 51 is adapted to support a chime (not shown) for orientating the keg 22 in the home beer dispensing apparatus 10.

The cylindrical side wall 54 terminates in a continuous side wall edge portion 57. The two keg half shells 50 have their respective side wall edge portions 57 placed in abutting relation with one another along a common plane 59 that passes through the center of the keg 22. The keg half shells 50 are joined together by a weld 61 along the abutting side wall edge portions 57 to form the keg 22.

The formation of the keg of the present invention has the advantage of utilizing a simple embossed design that produces a centering bottom face plate 66 for supporting the keg 22 in a heat transfer seated arrangement with a cooling plate 70 and a centering aperture 80 for receiving the valve 42 and the spear 44 for filling into and dispensing beer from the keg 22.

**WHAT IS CLAIMED IS:**

1. A keg suitable for containing an alcohol beverage, the keg comprising two keg half shells each identically formed to have an end wall portion and side walls extending from the end wall portion that terminates in a continuous side wall edge portion, and the two keg half shells having their respective side wall edge portions placed in abutting relation with one another and joined together to form the keg.

2. The keg of claim 1 wherein the end wall portion of each half shell is formed with a raised annular collar and a face plate extending across the collar to normally close the collar.

3. The keg of claim 2 wherein the face plate of one of the two keg half shells is adapted to engage a cooling plate in heat transfer relation therewith and the other face plate of the two keg half shells is at least partially removed to form an aperture for receiving a valve and spear for filling into and dispensing from the keg the beverage.

4. The keg of claim 3 wherein the end wall portion of each keg shell has an annular rim extending about the periphery of the end wall portion and adjacent to the cylindrical wall.

5. The keg of claim 4 wherein the rim is adapted to support a chime for orientating the keg in a home beer dispensing apparatus.

6. The keg of claim 4 wherein the end wall portions of the kegs each have a concave curvature relative to the side walls and interior of the keg.

7. The keg of claim 1 wherein each of the keg half shells are formed by deep drawing of a material selected from the group consisting of steel, stainless steel, and aluminum.

8. The keg of claim 1 wherein the side wall edge portions are

joined by a weld.

9. The keg of claim 1 wherein the side walls comprise a continuous cylindrical wall and the side wall edge portions of each cylindrical side wall abut each other along a common plane that passes through a center of the keg.

10. The keg of claim 9 wherein the side wall edge portions are joined by a weld.

11. The keg of claim 9 wherein the end wall portion of each half shell is formed with a raised annular collar and a face plate extending across the collar to normally close the collar.

12. The keg of claim 11 wherein the face plate of one of the two keg half shells is adapted to engage a cooling plate in heat transfer relation therewith and the other face plate of the two keg half shells is at least partially removed to form an aperture for receiving a valve and spear for filling into and dispensing from the keg the beverage housed therein.

13. The keg of claim 11 wherein the end wall portion of each keg shell has an annular rim extending about the periphery of the end wall portion and adjacent to the cylindrical wall.

14. The keg of claim 13 wherein the annular rim is adapted to support a chime for orientating the keg in a home beer dispensing apparatus.

15. The keg of claim 9 wherein the end wall portions of the kegs each have a concave curvature relative to the cylindrical side wall and interior of the keg.

16. The keg of claim 9 wherein each of the keg half shells are formed by deep drawing of a material selected from the group consisting of steel, stainless steel, and aluminum.

17. A keg suitable for containing a beer, the keg comprising two keg half shells each identically formed by deep drawing of a material selected from the group consisting of steel, stainless steel, plated steel and aluminum to have an end wall portion and a cylindrical side wall that extends substantially normal from the end wall portion;

each end wall portion being formed with a raised annular collar and face plate extending across the collar to normally close the collar, the face plate of one of the two keg half shells being adapted to engage a cooling plate in heat transfer relation therewith and the other face plate of the two keg half shells is at least partially removed to form an aperture for receiving a valve and spear for filling into and dispensing from the keg the beer housed therein; and,

the cylindrical side wall terminating in a continuous side wall edge portion, the two keg half shells having their respective side wall edge portions placed in abutting relation with one another along a common plane that passes through a center of the keg, and the keg half shells being joined together along the abutting side wall edge portions to form the keg.

18. The keg of claim 16 wherein the side wall edge portions are joined by a weld.

19. The keg of claim 16 wherein the end wall portions of the kegs each have a concave curvature relative to the cylindrical side wall and interior of the keg.

## KEG SHELL CONSTRUCTION

## ABSTRACT

A keg suitable for containing a beer has two keg half shells each identically formed by deep drawing of a material selected from the group consisting of steel, stainless steel, plated steel and aluminum. The keg half shells each have an end wall portion and a cylindrical side wall. Each end wall portion is formed with a raised annular collar and face plate extending across the collar to normally close the collar. The face plate of one of the two keg half shells is adapted to engage a cooling plate in heat transfer relation therewith. The other face plate of the two keg half shells is at least partially removed to form an aperture for receiving a valve system for filling into and dispensing beer from the keg. The cylindrical side wall terminates in a continuous side wall edge portion. The two keg half shells have their respective side wall edge portions placed in abutting relation with one another along a common plane that passes through a center of the keg. The keg half shells are joined together along the abutting side wall edge portions by a weld to form the keg.

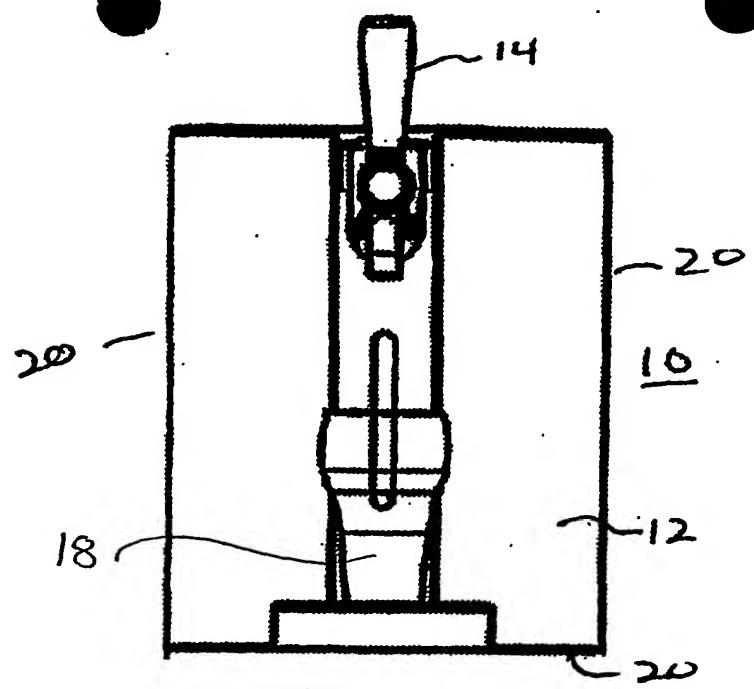


FIG. 1

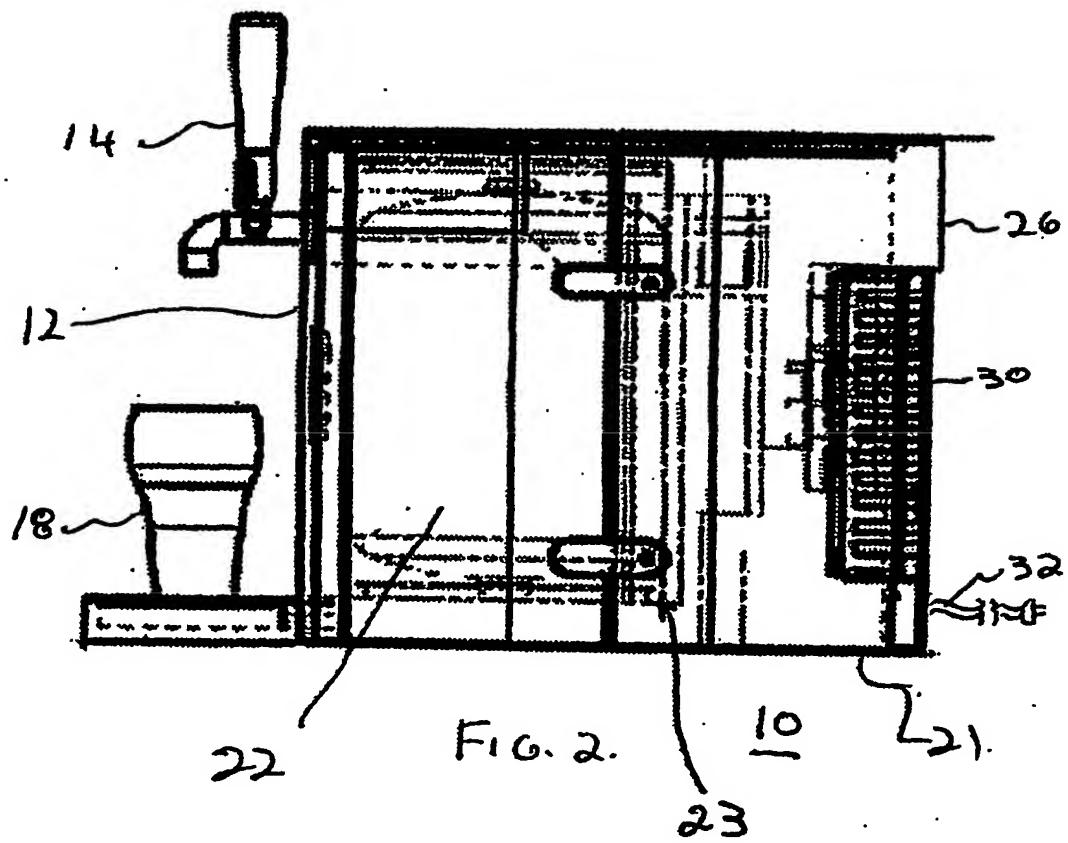
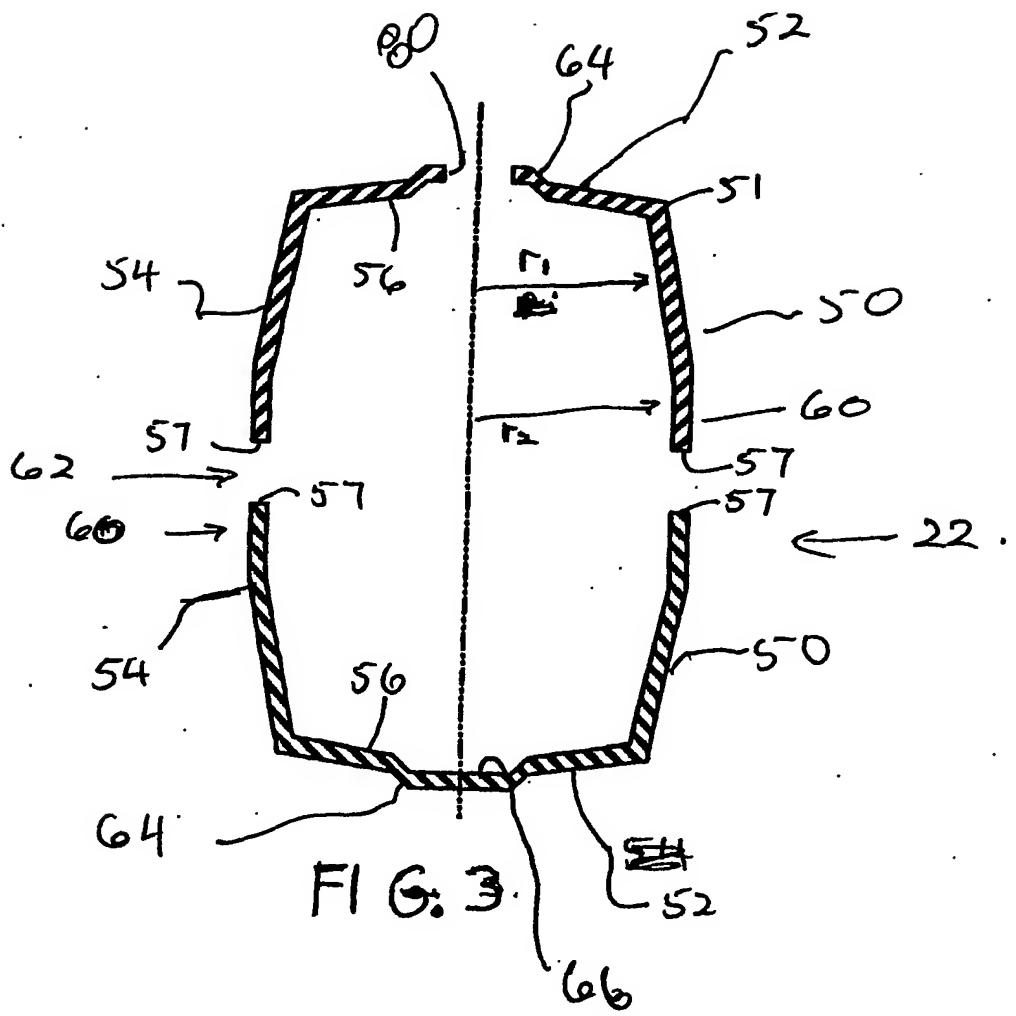
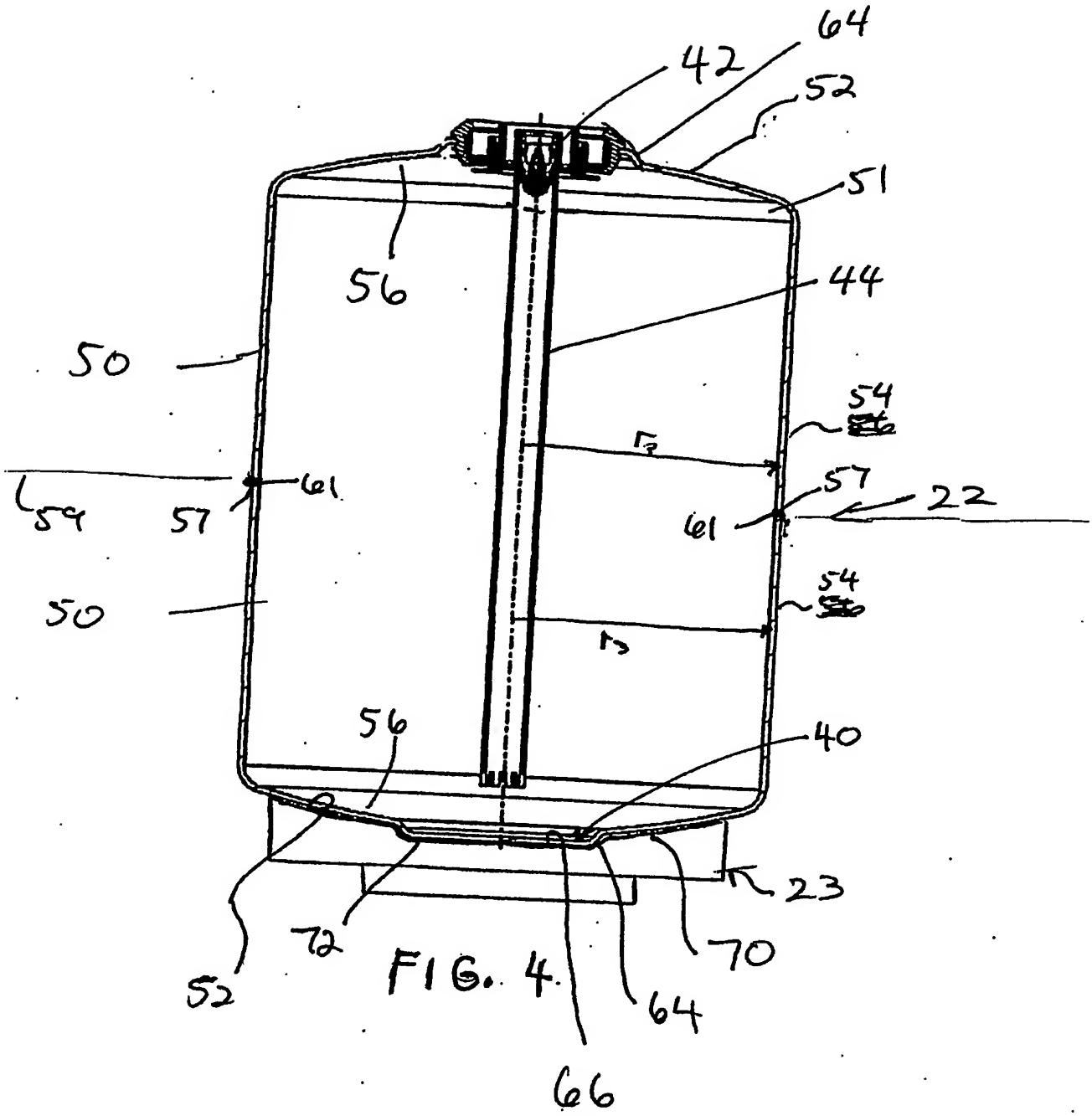


FIG. 2.





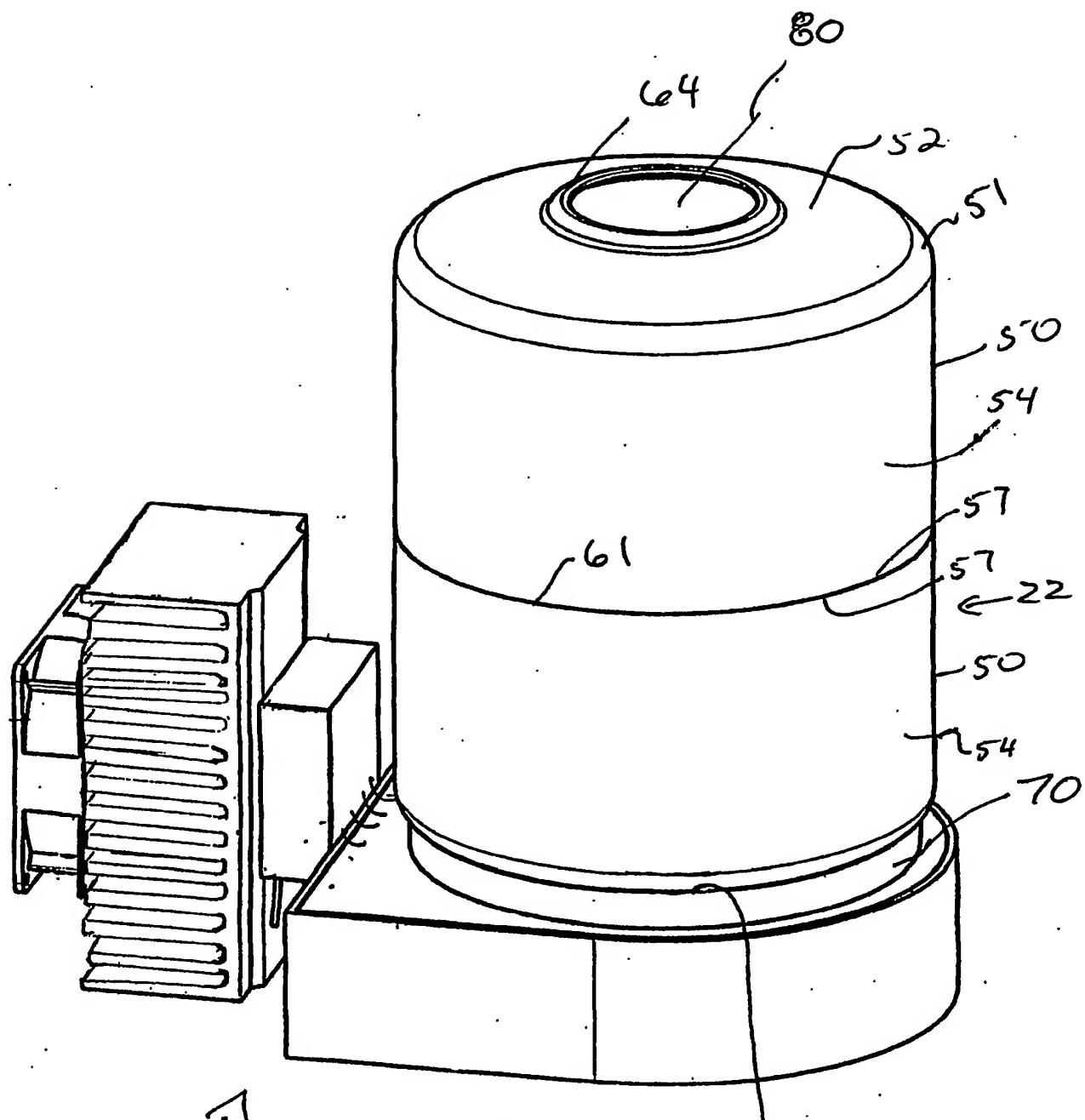


FIG. 5

23

72